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Evaluating the Efficacy of Decentralised Disaster Risk Financing in India

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List of Abbreviations

AIC	Agri Insurance Company of India Limited
ARC	African Risk Capacity
CBDRM	Community-Based Disaster Risk Management
CRA	Climate Resilience for All
DMA	Disaster Management (Amendment) Act
DPRs	District Project Plannings
DRR	Disaster Risk Reduction
DRTPS	Disaster Risk Transfer Parametric Insurance Solution
GDP	Gross Domestic Product
HLC	High Level Committee
ICMTs	Inter-Ministerial Central Teams
IMD	Indian Meteorological Department
INR	Indian Rupee
ISF	InsuResilience Solutions Fund
KVKs	Krishi Vigyan Kendras
MILMA	Kerala Co-operative Milk Marketing Federation
MoU	Memorandum of Understanding
NAFCC	National Adaptation Fund for Climate Change
NCIP	National Crop Insurance Portal
NCMC	National Crisis Management Committee
NDRF	National Disaster Response Fund
NGOs	Non-Governmental Organisations
NIDM	National Institute of Disaster Management
NSDMA	Nagaland State Disaster Management Authority
OSDMA	Odisha State Disaster Management Authority
PFMS	Public Finance Management System
PMFBY	Padhan Mantri Fasal Bima Yojana
SAPCC	State Action Plans on Climate Change
SDMF	State Disaster Response Fund
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SEWA	Self-Employed Women's Association
SHGs	Self-Help Groups
SOP	Standard Operating Procedure
SPV	Special Purpose Vehicle
UDMA	Urban Disaster Management Authority

1. Background

India has witnessed a steady increase in the frequency and severity of disasters in recent years. In 2024 and early 2025, the country experienced several such events. In 2024, several states in India including Assam, Kerala, Himachal Pradesh, Tripura, Gujarat, Andhra Pradesh and Telangana had suffered extreme socio economic and ecological losses due to floods caused by incessant rains. In 2025, unseasonal rains, heavy storms, and thunderstorms caused extensive damage in multiple districts in the state of Odisha. As per data provided by the Government of India in Lok Sabha, natural disaster claimed 2,936 lives, led to loss of 61,826 livestock, damaged more than 3.36 lakh houses, and affected 14.24 lakh hectare land in 2024-25.[1] These climate induced disasters have resulted in significant public spending. Reports indicate that over INR 16,566 crore through State Disaster Response Fund (SDMF) and INR 4,050.91 crore through National Disaster Response Fund (NDRF) have been released for relief, recovery, and rehabilitation in 2024-25.[2][3] This includes direct assistance to affected families, restoration of basic services, and support for damaged livelihoods, especially in agriculture, livestock, and informal jobs.

Despite these efforts, the response has often been reactive and slow. Delays in fund disbursal and lack of pre-arranged financial systems affect recovery. Most states lack immediate and accurate information on hazard, risk, and vulnerability of the losses incurred in a post disaster situation. This absence of hyper granular assessment and capacity gaps prevent states from deploying its own contingency fund judiciously. This apart, special Inter-Ministerial Central Teams (ICMTs) are constituted and deployed for surveys to assess the criticality of a natural disaster in a state.[4] The release of additional financial assistance through NDRF is dependent on the reports of ICMTs, which are typically a time-consuming affair. Such gaps call for a shift towards proactive and customised disaster risk financing mechanisms, especially in regions that face recurring threats. The focus must be on ensuring rapid recovery and developing resilience for vulnerable communities in a post disaster scenario.

[1] https://www.hindustantimes.com/india-news/2936-lives-lost-to-natural-disasters-in-2024-25-himachal-kerala-top-list-govt-101738680329164.html
[2] IBID
[3] https://pib.gov.in/PressReleseDetailm.aspx?PRID=2112256&reg=3&lang=1
[4] https://www.thehindubusinessline.com/data-stories/data-focus/state-governments-seek-more-funds-for-natural-disaster-relief-but-central-government-releases-only-a-fraction-requested/article68947044.ece

2. Learning from Existing Models and Infrastructure of Climatic Disaster Risk Financing.

Over the years, climatic disaster risk financing has evolved through various innovative pilots and programmes. Economies around the world are testing and implementing customised financial risk management models to safeguard themselves against rising number of natural calamities. The regional pooling mechanism of the Southeast Asia Disaster Risk Insurance Facility (SEADRIF), the PPP model of insurance under the Japan Earthquake Insurance System, the FONDEN model of Mexico and the African Risk Capacity (ARC) Replica Programme are few of many successful global models for risk financing. Back home, the Padhan Mantri Fasal Bima Yojana (PMFBY) has been globally hailed as one of the most successful risk financing models in the agricultural sector. This apart, states and non-governmental organisations are also running pilots to develop relevant models for minimising financial risk from unforeseen climatic disasters. Some of these models offer valuable insights into what works and what doesn't, and what is required to scale inclusive, effective disaster response in India which has a diverse topography and climatic conditions. A brief snapshot of some of the selected domestic models is presented below.

2.1 Pradhan Mantri Fasal Bima Yojana

Pradhan Mantri Fasal Bima Yojana (PMFBY) provides insurance coverage and financial support to the farmers in the event of yield loss of any of the notified crops as a result of natural calamities, pests and diseases, prevented sowing (on notified area basis), post-harvest losses (individual farm basis), and localised calamities. PMFBY is globally the largest crop insurance programme in terms of farmer enrolment and third largest in terms of insurance premiums, and is implemented through a multi-agency framework by selected insurance companies under the overall guidance and control of the Department of Agriculture, Cooperation and Farmers' Welfare under Ministry of Agriculture and Farmers' Welfare of the Government of India and concerned states, along with other implementing agencies such as commercial banks, co-operative banks, regional and rural banks among others.[5] Farmers pay a nominal premium (2 per cent for Kharif crops, 1.5 per cent for Rabi crops), while the rest is subsidised by the central and state governments. The payouts are based on crop damage assessment, where the claims are settled after the damage has been verified.

Since its inception in 2016, a total of 55.94 crore farmer applications have been insured for a sum of more than INR 15.75 lakh crores (as on 31 October, 2023). Concomitantly, a

[5] https://www.myscheme.gov.in/schemes/pmfby

total claim of INR 1.51 lakh crore has been paid against the farmer premium of INR 30,800 crore, which is nearly 5 times the farmer premium collected.[6] Since March 2023, all PMFBY claim calculations and settlements are undertaken through Digi-Claim module of National Crop Insurance Portal (NCIP) using Public Finance Management System (PFMS) Platform. The central government is also developing a mechanism of escrow accounts for states to ensure that the premium subsidies payments are not delayed beyond the prescribed timelines as per provisions of operational guidelines. These reforms are expected to improve effectiveness of the scheme and make payouts faster.

2.2 Disaster Risk Transfer Parametric Insurance Solution in Nagaland

Nagaland became the first state in India to pilot an insurance as a risk transfer mechanism to mitigate disaster-related financial risks through parametric insurance. In March 2021, the InsuResilience Solutions Fund (ISF) signed a grant agreement supporting the development of the first insurance scheme for protection against flooding due to rain, which would strengthen the Nagaland's State Disaster Response Mitigation Fund. The project was implemented in partnership with the Nagaland State Disaster Management Authority (NSDMA), Tata AIG General Insurance Company Limited as the prime insurer, Swiss Re as the reinsurer, and Faber Consulting as the project coordinator. The project was started in 2021 and was in effect till 2023. The state government paid an annual premium of approximately INR 70 lakh, covering few disaster-prone areas for INR 5 crores, with the trigger threshold initially set between 290mm and 350mm of rainfall.[7] However, despite heavy rainfall and floods during the period, the insurance failed to trigger a payout as the parametric components were not met. This happened as the dataset used in the agreement for determination of average rainfall was different from that of the Indian Meteorological Department's and local weather stations.[8] Learning from its experience of the pilot, the NSDMA has signed a new Memorandum of Understanding (MoU) with the SBI General Insurance for implementation of the Disaster Risk Transfer Parametric Insurance Solution (DRTPS) for three years from 2024-2027, with local stakeholders customising the parameters based on the regional risk. The DRTPS covers the area of entire state of Nagaland which is insured for a total of INR 150 crores, with the State Government of Nagaland paying a premium of INR 4.20 crores per year, totalling to INR 12.60 crores in three years.[9] Even

[6] https://agriwelfare.gov.in/Documents/AR_English_2023_24.pdf
[7] https://india.mongabay.com/2024/06/india-experiments-with-parametric-insurance-to-mitigate-costs-of-disasters/
[8] IBID
[9] https://nagalandpage.com/nagaland-government-inks-mou-on-disaster-risk-insurance-worth-rs-150-cr-with-sbi-general-insurance/

though the risk transfer mechanism adopted by Nagaland is still at an early phase, it has generated interest from other states and the insurance sector as a replicable model.

2.3 Parametric Insurance Pool by the Self-Employed Women's Association

The Self-Employed Women's Association (SEWA), along with Climate Resilience for All (CRA), introduced the parametric insurance pool to address the financial vulnerability of informal women workers in states like Maharashtra, Rajasthan, and Gujarat around 2021. This model aims to safeguard rural women engaged with SEWA, who rely on agriculture, animal husbandry, and daily wage labour from unpredictable weather events such as droughts, excessive rainfall, and temperature fluctuations.

The coverage of SEWA's parametric insurance pool extends to weather-related risks, with triggers linked to pre-defined environmental parameters, such as minimum or maximum rainfall thresholds and temperature deviations. When these conditions are breached, payouts are automatically released without requiring a formal claim process. This simplifies access to financial relief, ensuring that the participants receive compensation promptly during crises. Premiums are typically co-funded by the insured members and SEWA, with the organisation negotiating low-cost coverage with insurance providers. In some instances, donor agencies or development partners provide additional support to subsidise the premiums, making the product more affordable for low-income participants. The coverage amount varies based on the selected parameters, but it aims to offer partial financial protection, sufficient to stabilise livelihoods during temporary setbacks, such as crop failure or business interruption. While not designed to fully compensate for losses, the parametric model provides critical liquidity to help these women meet short-term expenses and prevent them from falling into debt.

As per CRA, 21,000 of the total 2.9 million women workers of SEWA were provided the innovative heat cover in 2023, with the beneficiaries crossing 50,000 women workers in 2024.[10] Under the parametric cover, beneficiaries receive cash payouts of up to INR 1,800, based on the intensity of the weather conditions. A payout of INR 400 is triggered when the temperature reaches 40°C. If the temperature exceeds 43°C, women beneficiaries receive payouts ranging from INR 535 to INR 1,800, depending on the severity of the heat.[11]

[10] https://www.deccanchronicle.com/news/parametric-insurance-offers-climate-safety-for-women-1829886
[11] IBID

Since its implementation, the programme has demonstrated positive outcomes, enabling faster recovery for beneficiaries and reducing their dependency on high-interest loans from informal lenders. The transparency and speed of the payout mechanism have fostered trust among participants, encouraging more women to enrol in the scheme. However, one key challenge has been to educate beneficiaries about how the model works, as some initially found the parametric concept of payouts depending on triggers rather than reported losses, difficult to understand.

2.4 Kerala Co-operative Milk Marketing Federation (MILMA) Parametric Insurance Model

Recognising the severe impact of weather fluctuations on milk production, the Kerala Co-operative Milk Marketing Federation (MILMA) and the Agri Insurance Company of India Limited (AIC) launched a heat index-based insurance model under the Saral Krishi Bima Scheme in April 2023 to support dairy farmers rearing cows and buffaloes, during heatwaves and unseasonal rainfall, which directly affect livestock productivity.[12] In its initial phase, this scheme was implemented in the Malabar region. Compensations were provided if the temperature crosses a prescribed limit of a geographic location for example, 37°C in Palakkad and Wayanad, 34.5°C in Kannur and Kasaragod, 33.5°C in Malappuram and, 33°C in Kozhikode.[13] With this scheme, MILMA intends to reduce the financial vulnerability of small and medium-scale dairy farmers who rely heavily on stable climatic conditions to maintain herd health and production levels. Under this scheme, MILMA shares the cost of the premiums with farmers, ensuring that coverage remains affordable. In some cases, the cooperative negotiates premium subsidies through partnerships with insurance companies or development funds. The extent of coverage is designed to provide partial compensation that allows farmers to continue operations during adverse conditions, although it is not intended to cover all potential losses. The scheme provides a dairy farmer an amount of INR 140 in compensation if the temperature rises continuously or persists above a prescribed limit for six days in a row. Similarly, the compensation rises if temperature/heat level rises or persists above a certain limit such as INR 440 for eight days, INR 900 for ten days, and INR 2000 for twenty-five days or more.[14] In 2023, 2,278 cattle in Kannur and Kasaragod received claims out of the total 14,338 cattle insured in the six districts with the final claim paid out being INR 29 lakh against a total premium of INR 6 lakh.[15] The outcomes so far have

[12] https://pib.gov.in/PressReleasePage.aspx?PRID=1915851
[13] https://english.mathrubhumi.com/news/kerala/milma-declares-compensation-for-dairy-farmers-citing-drop-in-milk-yield-during-summer-1.8485211
[14] IBID
[15] https://www.newindianexpress.com/cities/thiruvananthapuram/2024/Mar/18/milma-facilitates-insurance-scheme-for-dairy-farmers-facing-heat-distress-in-

been encouraging, with many farmers reporting enhanced resilience to weather shocks. Quick payouts have prevented disruptions in milk production, enabling farmers to maintain supply continuity although challenges remain in raising awareness about the benefits of parametric insurance over the conventional insurance among farmers.

3. Learnings from Existing Models

Comparing India's evolving landscape of risk financing programmes reflects a blend of traditional insurance mechanisms and innovative parametric solutions. While PMFBY has established itself as a pillar in agricultural risk management, the new parametric insurance model in Nagaland signifies the shift toward faster, data-driven financial resilience mechanisms. Both the SEWA and MILMA insurance models illustrate how innovative financial instruments can provide quick and targeted relief to vulnerable communities. These models bridge critical gaps left by traditional insurance products by using objective triggers for payouts, eliminating the need for lengthy assessments.

Few of the possible constraining factors that emerge include difficulty aligning contingency plans between government and third-party agencies (including civil societies, corporates, and other non-governmental partners) and data dependency on government for designing a robust model. Moreover, limited public awareness and infrastructural constraints could be key barriers to implementation of any of these models. Furthermore, the country's broader climate finance landscape is hindered by institutional and capacity challenges, with insurance penetration standing at a mere 3.7 per cent of GDP (compared to the global insurance penetration rate of 7 per cent).[16]

4. The Disaster Management (Amendment) Act 2025

The Disaster Management (Amendment) Act (DMA) 2025 creates a stronger legal and institutional framework that encourages risk-informed and decentralised financing models.[17] The major amendments in the DMA 2025 are vesting NDMA and SDMAs with the authority to prepare disaster management plans, mapping out the key functions of the NDMA and SDMAs, empowering State Governments to set up Urban Disaster Management Authorities, formation of State Disaster Response Force, providing statutory status to existing bodies such as the National Crisis Management Committee (NCMC) and the High Level Committee (HLC), and providing further autonomy to

thiruvananthapuram#:~:text=A%20farmer%20can%20claim%20up,decreased%20milk%20yield%20and%20quality.

[16] https://www.business-standard.com/finance/insurance/irdai-annual-report-2023-24-insurance-penetration-decline-124122500470_1.html

[17] https://egazette.gov.in/WriteReadData/2025/262126.pdf

NDMA in making necessary appointments. Each of these reforms supports a practical shift towards locally adapted disaster risk financing. Three major highlights of the amended Act are as follows.

4.1 Establish of Urban Disaster Management Authorities

State Governments now have the authority to establish an Urban Disaster Management Authority (UDMA) for state capitals and cities with municipal corporations except NCT of Delhi and the Union territory of Chandigarh. Urban authorities are empowered to conduct risk assessments, raise dedicated urban resilience funds, and coordinate with insurers, development partners, and civil society.

4.2 Creation of a Disaster Database

The amended DMA further provisions for the creation of a disaster database that would be a collection of disaster related information including disaster assessment, fund allocation detail, expenditure, preparedness and mitigation plan, risk register according to type and severity of risk and such other relevant matters, in accordance with such policy, as may be determined by the Central Government. This would help in furthering data based decision making for developing better disaster risk financing mechanisms.

4.3 Centralised Disaster Management viz-a-viz Decentralised Disaster Management

Traditionally, India has taken a centralised disaster management approach, where resources flowed downwards from the centre to states and to even local governance bodies. Historical examples where a centralised approach was taken include the Bhuj Earthquake in 2001, Indian Ocean Tsunami in 2004, Kerala Floods in 2018, and Cyclone Fani in Odissa in 2019. On the other hand, in the decentralised disaster management mechanism, authority is devolved to states, districts, and local communities where state and district authorities draft their own plans, and Gram Panchayats and municipalities are expected to integrate disaster risk reduction (DRR) into local development (as envisaged by NDMA guidelines on community-based DRR). An example of this is a multi-layer institutional framework that was established by the Odisha State Disaster Management Authority (OSDMA), which involved implementation of Village Disaster Management Plans and decentralisation of disaster response.[18] While the centralised

[18] https://www.ideasforindia.in/topics/governance/the-odisha-model-for-disaster-resilience.html#:~:text=Central%20to%20Odisha%E2%80%99s%20adaptive%20governance,collaborative%20ecosystem%20for%20disaster%20resilience

disaster management approach has the advantage of uniform policies and pooling of national resources to ensure large scale relief, it also suffers from various challenges including bureaucratic delays, information bottlenecks and a tendency to impose a "one size fits all" approach.[19] There is also potential friction with states as indicated during recent debate on the Disaster Management (Amendment) Bill where the opposition raised concerns about excessive central rulemaking and overlap.[20] The amended DMA has empowered the District Disaster Management Authorities with greater responsibility and decision-making power.[21] Moreover, with micro entities such as the formation of UDMAs now, decision making is expected to be customised to suit the local society. The amended Act aims to enhance the nation's capacity by integrating local adaptations with centralised support.

5. Customised Strategies for India's Vulnerable Regions

India's geographical and socio-economic diversity necessitates disaster risk financing strategies tailored to the unique vulnerabilities of each region and the amended Disaster Management Act could be effective in driving such strategies. A multi-stakeholder approach with clear policy support, community ownership, and innovation will be key to building a resilient India. Below are illustrative examples of how different models can be implemented effectively, with a focus on inclusive development.
(Please note these are illustrative models merely being used as examples only for the purpose of this discussion.)

5.1 Urban Heatwave-Linked Insurance in Cities in North and West India

Extreme heat events in selected cities in North and East India are becoming increasingly frequent. In recent times, cities such as Delhi, Jaisalmer and Kota (Rajasthan), Rajkot (Gujarat), and Faridabad (Haryana) among other cities were affected by severe heat waves. Vulnerable groups including street vendors, construction workers, rickshaw pullers, and domestic workers face both health risks and loss of daily wages due to heat-induced work disruptions. A heatwave-linked insurance scheme similar to the SEWA model, that combines health protection with wage loss coverage could be developed to combat this. Payouts under this scheme would be triggered when temperatures exceed pre-defined thresholds. Coverage can include emergency medical support and cash

[19] https://link.springer.com/chapter/10.1007/978-3-540-30176-9_37#:~:text=The%20existing%20Disaster%20Management%20,uses%20concepts%20of%20multi%20mobile
[20] https://www.hindustantimes.com/india-news/disaster-management-amendment-act-comes-into-force-from-april-9-centre-101744209624996.html
[21] https://pib.gov.in/PressReleasePage.aspx?PRID=2115092

transfers for wage replacement. Such a scheme would reduce heat-related deaths, stabilise income during peak summer, and promote worker resilience. It could be linked with broader urban resilience initiatives, such as greening, improved shelters, and health access. By reducing disaster-induced poverty cycles, such schemes will enhance urban economic productivity and reduce health burden on public systems. On the other hand, the decentralised approach of tailored disaster management plans as per local geography and culture, is better suited for using local resources for exigency plans. Decentralisation further fosters community ownership and participation from the society. In policy terms, embedding decentralised approach in Panchayat plans or urban local body plans builds resilience from the ground up. However, the decentralised approach do have drawbacks such as lack of technical expertise, funding, and technology. A global review warns that decentralisation often struggles with, "…problems with local-level capacity, funding arrangements, accountability structures, and communication/coordination."[22]

5.2 Cyclone Parametric Insurance in Coastal districts of Odisha, West Bengal, Andhra Pradesh, and Tamil Nadu

Coastal districts in Odisha, West Bengal, Andhra Pradesh and Tamil Nadu are routinely hit by cyclones, causing massive damage to homes, crops, and livelihoods. A parametric cyclone insurance triggered by windspeed thresholds with protective cover for fisherfolk, allied farming activities, and micro and small businesses which include housing repairs, input replacement, and temporary livelihood support could benefit vulnerable groups living in coastal areas. Alternatively, community owned insurance groups can be set up supported by district authorities and gram panchayats. Early financial relief post-cyclone can prevent migration, help households rebuild faster, and maintain local economic activity. This complements ongoing government housing and climate adaptation schemes, boosting resilience.

5.3 Community-Based Weather Index Insurance in Assam and Bihar

Flood-prone areas in Northeast India experience yearly disruptions, displacing families and damaging crops and small enterprises. A community-based weather index insurance tied to rainfall data, with village-level pooling of funds and payouts could be developed for providing initial relief and rehabilitation measures for flood affected victims. This would ensure faster liquidity post-disaster, prevent informal debt cycles, and strengthen social cohesion. This would also encourage community resilience

[22] https://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Scott_%26_Tarazona_2011.pdf#:~:text=In %20answer%20to%20the%20original,to%20low%20levels%20of%20citizen

planning and enable small farmers to continue farming without prolonged financial distress.

These customised strategies, when implemented at scale, can transform disaster response from reactive aid to anticipatory protection. They build local capacity, protect informal workers, and ultimately support India's inclusive economic development by safeguarding the productivity of its most vulnerable citizens.

6. Implementation Strategies

Considering the criticality of such initiatives, such risk financing strategies need to be data centred by a strong technology backed infrastructure. This means it needs collaboration and hand holding among critical players such as the NDMA, State, District and Urban Disaster Management Authorities, municipal corporations, Nagar and Gram Panchayats, the Indian Meteorological Department (IMD), the National Institute of Disaster Management (NIDM), Krishi Vigyan Kendras (KVKs), Risk Reduction Agencies, insurers and reinsurers, banks and microfinance companies, Non-Governmental Organisations (NGOs) and Self-Help Groups (SHGs), and assistance from multilateral organisations. For example, the Urban Heatwave-Linked Insurance in cities in North and West India can be expanded through the new UDMAs, enabling the rollout of action plan backed by real-time monitoring systems. UDMAs can serve as innovation hubs for disaster financing by piloting location-specific tools, supported by local data and public-private partnerships. Moreover, local NGOs and SHGs in partnership with labour unions could help in building awareness among labourers, enrollment, and feedback. Mobile-based platforms linked to bank accounts created under Jan Dhan Yojana may be used for easy claim submission and payouts. Similar models may be used for developing appropriate strategies for vulnerability mapping and capacity building among fishing communities and farm allied businesses in coastal regions. Creating such models would need handholding among district administrations, District Disaster Management Authorities, local panchayats and gram sabhas, with relevant data backing from IMD and the newly announced disaster database and technological support from third party players.

7. Outcomes of the Discussion and Recommendations

This discussion on "Evaluating the Efficacy of Decentralised Disaster Risk Financing in India," was organised to explore the implementation of customised disaster risk financing strategies in vulnerable regions of India. This discussion focused on the importance of creating a decentralised resilience fund, the scope of planning under the

new urban disaster management authorities, and the what could be climate-smart disaster management approaches. The discussion also focussed on assessing the feasibility and effectiveness of the Disaster Management (Amendment) Act 2025. Outcomes from this discussion are presented below.

i. An effective disaster management programme must have a two-pronged approach. It should be a combination of ex ante (disaster risk adaptation) initiatives and ex post (disaster risk mitigation) measures. This would entail integrating practices to reduce the impact of hazards and climate change (with emphasis on prevention and mitigation) and mechanisms for adjusting systems structures for prevention (disaster preparedness) with instant relief and rehabilitation initiatives for reducing vulnerability. Hence a rational financial allocation must be decided for this two-pronged initiative.

ii. Effective disaster management starts at grassroot level. Hence, empowering grassroot level authorities is a must. Odissa, the first state in India to set up a State Disaster Management Authority, prepared a standard operating procedure (SOP) to tackle cyclones and flood-like situations through education and awareness among school and college students, and developing a model disaster risk management programme. Since the super cyclone in Odissa in 1999, the State has refined and customised this programme to make it effective on ground. Odissa focussed on developing a bottom-up approach for tackling natural disaster (instead of the typical top-down approach followed by most states) by empowering bureaucratic and political authorities at the district level, at the block/taluk level, and at the village level. These authorities had the discretionary power to utilise resources (food, transport etc.) to take proactive measures before any natural disaster (such as flood and cyclone) to minimise the risk of life loss. As a result of this preparedness, when Cyclone Dana hit Odissa in 2024, the State reported zero loss of human lives and only some financial losses.

iii. To ensure effective governance in disaster management plans, policy reforms must be brought in the structure of the governance model and its functioning. The structure of governance must be bereft of the complexities of operation and multi-layered decision-making methods, especially during climatic disasters. Such a process was exemplified by the Government of Odisha, which delegated administrative and decision-making powers to District Collectors and Sarpanch/Panchayat Officers during the COVID pandemic to bypass centralised governance complexities and SOPs for running quarantine facilities and maintaining COVID related procedures. These officials were also allowed access to funds and resources to carry out such functions. Delegation of governance helped these officials to make rules regarding restriction of movement during the pandemic, maintaining food and essential supply in all neighbourhoods and localities, organising testing and treatment for COVID patients among others. In short, decentralisation of finances will only be successful with the

decentralisation of responsibility and decentralisation of power (till grassroot level). Decentralisation of finances will not work with centralisation of authority and responsibility. Unless governance and authority are devolved, there is no point in devolving finances.

iv. Under the revised Disaster Management Act, city and village level disaster management authorities can make a plan and have an allocation for disaster risk response as well as risk mitigation, risk reduction and for developing resilience programme and capacity building. To ensure proper allocation and timely disbursement of funds, there is a need to develop vulnerability indices, risk indices and distributions profiles for these cities and villages. With decentralisation, disaster management authorities can now develop customised product for a specific district, a city or a village as per the need of the region, frequency of a particular disaster and past losses from similar catastrophes. This would also enable judicious use of financial resources for paying premiums for insurance coverage. Encouraging community-based disaster risk management (CBDRM) programmes and provisioning allocation of funds for such programmes will also go a long way in developing grassroot level disaster management plans and climate change resilient initiatives.

v. Despite the 15th Finance Commission allocating funds for climate risk mitigation (and adaptation) programmes for 2021-26, it has been reported that most of the fund allocated remain underutilised. Furthermore, states are more focussed on reactive and relief centric responses rather than on disaster preparedness and capacity building. States must deploy these funds for creating awareness and educating citizens and developing climate resilient infrastructures and initiatives for managing disaster risks better.

vi. Funds allocated for disaster risk mitigation often remain untouched as there is ambiguity and lack of clarity in the guidelines for using central government funds for disaster risk transfer mechanisms and permissible financial instruments for which such funds can be utilised. To obtain clarity, one may have to take multiple NOCs/clarifications from different ministries, and from national and sub national government institutions. The Government should consider a way to streamline such decision making and communication to ensure better implementation of such decisions. This would also include new expenditure heads for this purpose.

vii. Several states have highlighted the mismatch in required and allocated financial resources for implementing climate adaptation and climate resilient actions in their State Action Plans on Climate Change (SAPCC). Since information pertaining to financial and capacity-based resourcing is crucial for effective implementation of disaster risk management at the local level, it is important to link the top-down approach of the Central Government in disaster management plans to the bottom-up approach adopted by State Governments. This would

ensure that policies, planning and implementation related to climate risk information and climate risk management is synergised, integrated, and standardised. For better financial planning and efficient allocation of funds, it is crucial that data frameworks are strengthened and flow of information is on real time basis. States must emphasise on integrating data (such as the Disaster Risk Index) into climate risk adaptation planning.

viii. All large-scale infrastructure projects possess certain risk to ecology and nature. Hence, it is necessary to have inbuilt components of disaster risk reduction and resilience in all new infrastructure project, especially in critical infrastructure projects. Additionally, existing infrastructure projects should be retrofitted with climate resilient measures to reduce their vulnerability towards natural disasters. National and sub-national (state) climate adaptation plans must allocate funding for financing such new climate resilient infrastructures and upgrading old infrastructures.

ix. There is a need for enhanced focus on enforcement of regulations illegal and encroachment activities which bring more adverse consequences in susceptible areas. Illegal encroachment of land and property (especially, forests and hilly areas) has adverse impact on ecology of a region as well as jeopardises effective planning and implementation of disaster management initiatives.

x. Integrating climate risk adaptation plans and disaster risk management programmes into national and sub-national programmes such as the Mahatma Gandhi Rural Livelihood Scheme, MGNREGA, District Project Plannings (DPRs), and at village and city level development plans would help in effective financial allocation and planning of resources for disaster risk management. The Government must ensure that vulnerable communities, small businesses, and climate sensitive sectors (such as agriculture and farm allied businesses) are brought under climate risk mitigation and disaster risk adaptation process so that appropriate climate risk resilient products can be developed to protect lives and livelihoods of such vulnerable stakeholders.

xi. Government should consider setting up a decentralised disaster management fund, preferably through a Special Purpose Vehicle (SPV), modelled on the lines of the National Adaptation Fund for Climate Change (NAFCC). Although the NAFCC was unsuccessful due to certain challenges of its own, policymakers may consider learning from the challenges to set up this fund. This fund should be able to access funds from public and private sources (CSR, ESG funds and private fundings) and should circumvent bureaucratic hurdles to ensure timely financial flows to post disaster relief, risk preparedness, and capacity building.

xii. The Government should initiate immediate awareness programme regarding disaster and climate insurance for better adoption among institutional and retail investors. Most states are hesitant to pay an insurance premium as it is often

considered a wastage of money in case there no disaster or there is considerably low loss (and it doesn't hit the parametric threshold). There is a need to alter the mindset of treating insurance products as an investment scheme, instead of its true purpose which is as a safeguard mechanism. To develop trust and ensure transparency in insurance, public sector insurance companies and states with insurance licenses can start offering parametric insurance products backed by reinsurance companies to start parametric insurances for natural catastrophes. This would also help in raising awareness about disaster insurance among individuals and institutions.

xiii. Most Indian insurers lack reinsurance. Insurance companies, especially PSUs in the insurance sector must opt for reinsurance and lead the way for the private sector by setting an example. Ideally, major climatic disasters from the past may be considered as a reference points, taking into account the total sum insured for the entire market (in the past), which can then be extrapolated to reflect the current requirement of reinsurance for a climatic incident of the same magnitude. This collection of data in terms of expected loss and insurance/reinsurance requirements are key to disaster financial planning.

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About Policy Consensus Centre (PCC)

The Policy Consensus Centre (PCC), founded by Ms. Nirupama Soundararajan and Mr. Arindam Goswami, emerges with a distinct mission: to conduct impactful policy research and drive policy transformations. Our focus encompasses pivotal sectors crucial for India's advancement, along with those that have been underexplored. In the intricate landscape of India, divergent opinions often hinder consensus-building for policymakers amidst diverse stakeholders.

PCC stands dedicated to comprehensive, evidence-driven research, promoting inclusivity and rigor. Our objective resides in cultivating accord among stakeholders through independent, data-centric analysis, a catalyst for meaningful policy shifts. In a climate where some research entities avoid unconventional subjects, PCC remains resolute in advocating thorough exploration across all sectors. Our belief underscores the necessity to scrutinize seemingly unconventional domains, an approach vital for identifying accurate risks and formulating sound policies.

PCC champions the synergy of economic rationale and empirical data, pivotal in fostering consensus and enabling effective policymaker engagement. In essence, PCC embodies a pioneering spirit committed to navigating uncharted territories, propelling well-informed policy decisions for India's holistic growth.

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